IC 2001-1 to AFI 21-101, MAINTENANCE MANAGEMENT OF AIRCRAFT

01 MARCH 2001

SUMMARY OF REVISIONS

This interim change adds a new chapter to AFI 21-101 to establish detailed impoundment procedures for aircraft and equipment. A (★) indicates revision from previous edition.

★ CHAPTER 9

★ IMPOUNDMENT PROCEDURES

★ **9.1.** AIRCRAFT IMPOUNDMENT. Aircraft or equipment is impounded when intensified management is warranted due to system or component malfunction or failure of a serious or chronic nature. Impounding aircraft and equipment allows investigative efforts to proceed systematically and minimize the risk of disturbing or losing evidence. Units will establish an operational instruction (OI) to address specific requirements in managing impoundment activities for assigned aircraft and equipment.

★ **9.2.** IMPOUNDMENT TERMS:

★ 9.2.1. Authorized Personnel. Individuals authorized by the impoundment official to be involved in the management, safing, troubleshooting, or repair of an impounded aircraft or equipment.

★ 9.2.2. Impoundment. Intensified aircraft and equipment management due to system or component malfunction or failure of a serious or chronic nature. Impoundment is the isolation or control of access to an aircraft or equipment item and the applicable historical records after a serious incident, malfunction, or failure so that an intensified investigation can be completed. Access to impounded aircraft or equipment must be restricted to insure investigative efforts and repair actions are not hampered and prevent disturbing, damaging or losing pertinent evidence.

★ 9.2.3. Impoundment Authority. The OG/CC, LG/CC, or Director, or their designated representative(s) given the authority to impound aircraft or equipment. Personnel with impoundment authority will be designated in writing by the OG/CC, LG/CC, or Director and will be tracked on the special certification roster (SCR).

★ 9.2.4. Impoundment Official. The impoundment official is the lead maintenance officer, senior NCO, or equivalent, responsible for controlling, monitoring, and investigating impounded aircraft/equipment. The impoundment official is the single point of contact for the affected aircraft or equipment. Impoundment officials are designated in writing by the OG/CC, LG/CC, or Director and are tracked on the SCR.

★ 9.2.5. Impoundment Release Authority. The OG/CC, LG/CC, or Director has the authority to release aircraft or equipment from impoundment. Delegation of this authority will be limited. If the OG/CC, LG/CC, or Director delegate impoundment release authority, individuals will be designated in writing and tracked on the SCR.

★ 9.2.6. Isolation Area. An area designated by the impoundment authority or impoundment official to locate impounded aircraft or equipment. Aircraft may be isolated on the flight line or in hangars. The isolation area will be marked off using cones, ropes, or placards indicating the impoundment condition.

★ **9.3.** REASONS FOR IMPOUNDMENT OF AIRCRAFT OR EQUIPMENT. Aircraft and equipment may be impounded for many reasons. Involved personnel should evaluate the problem and recommend impounding the aircraft or equipment to the impoundment authority whenever circumstances exist that warrant intensified management. Impound aircraft or equipment:

★ 9.3.1. Following an aircraft ground or flight related mishap as defined in AFI 91-204, *Safety Investigations and Reports*.

★ 9.3.2. Following an uncommanded flight control malfunction IAW AFI 91-204. Special attention is required to completely diagnose and correct flight control malfunctions.

★ 9.3.3. When an inadvertent release or an explosive mishap is reported.

★ 9.3.4. When the impoundment authority determines extraordinary measures are required to ensure the safe operating condition of a specific aircraft/equipment or to address any degradation of aircraft airworthiness or serious anomaly.

★ 9.3.5. When authorized procedures are not adequate or the unit is unable to identify or repair loaded nuclear weapons system malfunctions within the criteria of AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapons Systems.*

★ 9.3.6. When engine anomalies occur to include but not limited to:

★ 9.3.6.1. Confirmed internal engine damage resulting from foreign object damage.

★ 9.3.6.2. Unselected propeller reversal.

★ 9.3.6.3. Flameout/stagnation.

★ 9.3.6.4. Case penetration, rupture, or burn-through.

★ 9.3.6.5. Loss of thrust sufficient to prevent maintaining level flight at a safe altitude. This includes all cases of multiple engine power loss or roll back.

★ 9.3.7. When an in-flight fire occurs.

★ 9.3.8. When an aircraft flight control malfunction (including autopilot or trim) results in a hazardous flight condition.

★ 9.3.9. When an aircraft experiences an in-flight loss of all pitot-static system instruments or all gyro-stabilized attitude or direction indicators.

★ 9.3.10. When there is evidence of intentional damage, tampering, or sabotage.

★ 9.3.11. When there are physiological incidents involving aircraft systems or cargo (crew members become ill during flight).

★ 9.3.12. Impoundment authorities will determine if impoundment is warranted when:

★ 9.3.12.1. A tool or other item has not been found after an extensive search has been conducted.

★ 9.3.12.2. An aircraft landing gear fails to extend or retract.

★ **9.4.** RESPONSIBILITIES.

★ 9.4.1. The OG/CC, LG/CC, or Director designate impoundment authorities and impoundment officials in writing and ensure they are tracked on the SCR.

★ 9.4.2. The impoundment official is designated as the single point of contact for impounded aircraft/equipment. They are responsible for controlling and monitoring the investigation of impounded aircraft/equipment. The impoundment official ensures only authorized personnel have access to the impounded aircraft/equipment. The impoundment official also insures that parts removed from impounded aircraft/equipment are carefully controlled to insure that parts, once confirmed as the cause for impoundment, are available to be processed as deficiency report exhibits.

★ 9.4.3. QA is the OPR for impoundment procedures. QA will develop a local operating instruction and checklists for impoundment and notification.

★ 9.4.4. If the cause of the discrepancy could potentially affect other aircraft/equipment in the fleet, QA notifies the impoundment authority and the MAJCOM weapon system manager. The MAJCOM weapon system manager will notify the lead command. The lead command will notify the system program director or product group manager when a discrepancy could potentially affect other aircraft/equipment in the fleet.

★ **9.5.** IMPOUNDMENT PROCESS AND PROCEDURES.

★ 9.5.1. When the impoundment authority directs impoundment, a red X symbol will be placed in the applicable AFTO Form 781A or AFTO Form 244 with a statement indicating the reason for impoundment and the name of the assigned impoundment official.

★ 9.5.2. The Maintenance Operations Center (MOC) or Maintenance Control Function (MCF) will be notified when an impoundment decision has been made.

★ 9.5.3. The impoundment official will use approved QA-established checklists to document sequence of actions.

★ 9.5.4. The impoundment official will insure that access to impounded aircraft/equipment is controlled. Establish ECP if required.

★ 9.5.5. If an ECP is established, the impoundment official will ensure an access control log is maintained at the ECP of the impounded aircraft/equipment or storage facility to track personnel entering and leaving the area for the duration of the impoundment.

★ 9.5.5.1. The log will contain the following information as a minimum: individual's name, rank and employee number, date arrived/departed, and reason for entry.

★ 9.5.5.2. The impoundment official will review the log daily.

★ 9.5.5.3. The log will be maintained on a daily basis until the impoundment release authority releases the aircraft and will be disposed of only after the investigation has been completed and the aircraft is successfully repaired.

★ 9.5.6. The impoundment official selects a team of highly qualified technicians dedicated to determine the cause of the problem that led to the impoundment.

★ 9.5.7. Aircraft/equipment records will be controlled at the discretion of the impoundment official. When required, the impoundment official will:

★ 9.5.7.1. Obtain and secure the current aircraft forms and the aircraft jacket file for aircraft or the AFTO Forms 244, *Industrial/Support Equipment Record*, for equipment.

★ 9.5.7.2. Notify the Maintenance Information System (MIS) Database Manager (DBM) to isolate the aircraft/equipment serial number in order to prevent any changes and maintain the integrity of the historical data in the database until the aircraft/equipment is released.

★ 9.5.7.3. Request from the squadron owning the aircraft/equipment any personnel records required to support the impoundment investigation. These records may include, but are not limited to, individual training records to determine task qualification.

★ 9.5.8. Maintenance will be limited on impounded aircraft/equipment until the cause is determined. The impoundment official will determine what maintenance can be performed in conjunction with the maintenance required to release the aircraft/equipment from impoundment.

★ 9.5.9. Parts removed from impounded aircraft/equipment will be carefully controlled. This is to insure that parts, once confirmed as the cause for impoundment, are available to be processed as deficiency report exhibits.

★ 9.5.10. The impoundment official determines the need for a one-time flight, if required, IAW TO 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*, and requests authorization from the appropriate group commander, director, or their authorized designated representative.

★ 9.5.11. Once the cause of the malfunction or failure has been positively determined, the impoundment official briefs the impoundment release authority on findings, corrective actions, and requests approval to release the aircraft or equipment from impoundment.

★ 9.5.11.1. If approved, the impoundment release authority clears the impoundment in the aircraft/equipment forms by entering "*Investigation complete, all corrective actions have been reviewed, aircraft/equipment released*" referring to original discrepancy in the "corrective action" block, signing the "inspected by" block and initialing over the red X symbol.

★ 9.5.11.2. If the cause of a reported malfunction cannot be determined or a positive corrective action cannot be confirmed, the impoundment release authority will determine if further actions are required.

★ 9.5.12. When an aircraft is away from home station and encounters a problem warranting impoundment, the following procedures must be followed:

★ 9.5.12.1. Established impoundment procedures will be followed. The OG/CC, LG/CC, or Director may temporarily delegate impoundment and release authority to the deployed maintenance supervisor or superintendent.

★ 9.5.12.2. Clear impoundment discrepancy using "Red X" clearing procedures IAW TO 00-20-1.

★ **9.6.** RULES OF IMPOUNDMENT SPECIFICALLY FOR EXPLOSIVE-RELATED MISHAPS. When an inadvertent release or an explosive mishap is reported, the following procedures apply:

★ 9.6.1. In-flight:

★ 9.6.1.1. When the involved aircraft returns to the de-arm or parking area, the aircraft is impounded. Limit maintenance actions to those required to make the aircraft safe.

★ 9.6.1.2. Inform the appropriate group commander and the wing/base safety office of the impoundment action.

★ 9.6.1.3. Park and isolate aircraft with unsafe or hung munitions in an area approved by safety and airfield management.

★ 9.6.1.4. Investigate and report the incident IAW AFI 91-204.

★ 9.6.2. Ground:

★ 9.6.2.1. The senior ground crew member is in charge of the aircraft/equipment until relieved and ensures involved persons remain at the scene.

★ 9.6.2.2. Injured persons receive attention first.

★ 9.6.2.3. Protect other aircraft or equipment located near the incident if an explosive hazard exists.

★ 9.6.2.4. Do not change the position of any switches except as needed for safety. Limit maintenance actions to those actions required to make the aircraft/equipment safe.

★ 9.6.2.5. The investigating Weapons Safety Officer/NCO begins recovery actions for objects/equipment dropped in flight and prevents removal of equipment released or fired on the ground. Keep items in place until the investigating Ground Safety Officer/NCO releases them. Photograph items prior to removal.

★ 9.6.2.6. When the unit cannot identify the cause of a failure/malfunction, AFMC/Contractor technical assistance is requested IAW AFI 91-204. Once assistance is requested, additional tear down of the aircraft or equipment is prohibited.